

# Reconstructing the Principle of Due Process of Law in Automated Public Decision-Making in Digital Public Services

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## Abstract:

This study examines the reconstruction of the principle of due process of law in automated public decision-making within digital public services in Indonesia. The objective is to analyze how citizens' procedural rights should be protected when public service decisions are made, supported, or significantly influenced by algorithmic systems. This research employs a qualitative legal method with a normative-juridical and conceptual approach. Data were collected through documentary study of Indonesian legal instruments concerning government administration, public services, personal data protection, electronic systems, and electronic-based government, supported by relevant scholarly literature on automated decision-making, administrative law, and algorithmic accountability. The findings show that Indonesia's current legal framework provides general principles of legality, accountability, public service obligations, and data protection, but has not yet specifically regulated the procedural consequences of automated public decision-making. This regulatory gap may weaken citizens' ability to understand, correct, question, and challenge algorithm-based public service decisions. The study proposes an algorithmic due process framework consisting of five core rights: the right to notification, the right to explanation, the right to data correction, the right to meaningful human review, and the right to administrative or judicial challenge. This study contributes to administrative law scholarship by linking classical due process principles with algorithmic governance in digital public services.

Keywords: administrative law; algorithmic accountability; automated public decision-making; digital public services; due process of law.

## 1. Introduction

The expansion of digital public services has changed the way governments interact with citizens, particularly in the processing of applications, verification of eligibility, distribution of public benefits, licensing, taxation, population administration, recruitment, and complaint handling. In this transformation, public decisions are increasingly supported or produced through automated systems that classify data, score risks, predict eligibility, and recommend administrative outcomes. Automated public decision-making is often justified by the promise of efficiency, consistency, speed, and reduction of bureaucratic discretion. However, when decisions affecting citizens' rights, obligations, benefits, or access to services are generated through algorithmic systems, the issue is no longer merely technical. It becomes a constitutional and administrative law problem concerning legality, fairness, transparency, and public accountability. Recent studies show that automated decision-making in public administration creates tensions between efficiency and fairness, transparency and privacy, standardization and discretion, as well as administrative innovation and citizens' procedural protection (Rizk & Lindgren, 2025; Zuiderwijk, Chen, & Salem, 2021; Madan & Ashok, 2023).

The principle of **due process of law** has traditionally functioned as a safeguard against arbitrary state power. In administrative law, due process requires that citizens are treated fairly before, during, and after the issuance of a governmental decision. This includes the right to know the legal basis of a decision, the right to be heard, the right to receive reasons, the right to correct inaccurate information, the right to object or appeal, and the right to obtain review by an impartial authority. These guarantees are essential because administrative decisions often directly affect social assistance, public employment, licensing, identity status, health services, education access, and other public rights. Automated decision-making challenges these

guarantees because citizens may not know whether a decision was made by a public official, a digital system, or a combination of both. The opacity of algorithmic reasoning may also prevent citizens from understanding why their application was rejected, why they were classified as ineligible, or how they may challenge an adverse decision (Suksi, 2021; Williams, 2022; Bignami, 2022; Busuioc, 2021).

In Indonesia, this issue becomes increasingly relevant within the broader agenda of electronic-based government and digital public service reform. The digitalization of public administration has encouraged the use of integrated databases, electronic service platforms, digital identity systems, online licensing, social welfare information systems, and automated verification mechanisms. These developments may improve service delivery, but they also generate new legal vulnerabilities when automated systems influence or determine administrative outcomes without sufficient transparency, correction mechanisms, and accessible legal remedies. Recent Indonesian scholarship has noted that administrative determinations derived from digital systems—such as civil-service recruitment systems, social welfare databases, digital identity applications, and inter-agency data integration—may create a gap between constitutional due process and the reality of automated public decision-making (Hariansah & Qhistina, 2026). This problem requires a doctrinal reconstruction of due process so that citizens are not reduced to data subjects who passively receive decisions from opaque systems.

Previous studies have provided an important foundation for understanding AI and automated decision-making in public administration. Zuiderwijk, Chen, and Salem (2021) developed a systematic literature review on AI in public governance and emphasized the need for multidisciplinary governance frameworks. Wirtz, Langer, and Fenner (2021) proposed a research agenda for AI in the public sector, while Madan and Ashok (2023) examined AI adoption and diffusion in public administration. Mergel et al. (2023) discussed organizational challenges in implementing AI in the public sector, and Maragno et al. (2023) analyzed the affordances and constraints of AI implementation in public organizations. Medaglia, Gil-Garcia, and Pardo (2023) mapped the development of AI research in government, while Van Noordt and Tangi (2023) emphasized the relationship between AI capability and public value creation. In addition, Schiff, Schiff, and Pierson (2022) warned that AI adoption in government may produce public value failure when fairness, transparency, and legitimacy are neglected. Gesk and Leyer (2022), Grimmelikhuijsen (2023), and Aoki et al. (2024) further show that citizens' acceptance of AI-supported public services depends strongly on trust, transparency, explanation, and perceived fairness.

A second body of literature focuses more directly on legal safeguards, procedural fairness, and accountability in automated decision-making. Suksi (2021) argues that the use of fully automated decision-making in public administration may make certain traditional due process safeguards ineffective unless administrative law is updated to address automation. Williams (2022) similarly argues that algorithmic decision-making requires a rethinking of administrative law doctrines, particularly legality, discretion, reason-giving, and reviewability. Bignami (2022) examines AI accountability in public administration from a comparative administrative law perspective, while Busuioc (2021) stresses the need to hold algorithmic systems and institutional actors accountable. Decker, Wegner, and Leicht-Scholten (2025) highlight the role of public engagement in procedural fairness, and Hoepfner and Samek (2024) argue that procedural fairness is central to the successful implementation of algorithmic decision-making in public administration. More recent studies by Rizk and Lindgren (2025), Hillo, Vento, and Erkkilä (2025), Agbabiaka, Ojo, and Connolly (2025), and Hariansah and Qhistina (2026) strengthen this debate by emphasizing decision space, legitimacy perception, trustworthiness requirements, and algorithmic due process in public-sector decision-making.

Despite these contributions, existing studies have not sufficiently reconstructed **due process of law** as a specific administrative-law safeguard for automated public decision-making in Indonesia's digital public services. Much of the existing literature focuses on AI adoption, organizational readiness, public value, trust, transparency, or general algorithmic accountability. Other studies discuss automated decision-making from comparative, constitutional, or technological perspectives, but do not fully connect

administrative due process with the concrete rights of citizens in digital public service decisions. This article therefore positions itself at the intersection of administrative law, digital governance, and algorithmic accountability. Its novelty lies in connecting due process in administrative law with algorithm-based public decisions by proposing that citizens affected by automated public decision-making must have at least five procedural rights: the right to notification, the right to explanation, the right to correction of data, the right to meaningful human review, and the right to administrative or judicial challenge. Accordingly, this study aims to reconstruct the principle of due process of law in automated public decision-making within Indonesia's digital public services and to formulate a rights-based framework that ensures algorithmic efficiency remains subject to legality, fairness, human oversight, and accountable public administration.

## 2. Methodology

This study employs a **qualitative legal research method** with a normative-juridical orientation. The qualitative method is used because the central object of the study is not numerical measurement, but the interpretation of legal principles, citizens' procedural rights, institutional duties, and accountability standards in automated public decision-making. In this context, legal research is directed toward understanding how the principle of **due process of law** should be reconstructed when public service decisions are made, supported, or influenced by algorithmic systems. Qualitative legal analysis is relevant because it enables the researcher to examine legal texts, doctrinal concepts, regulatory gaps, and the relationship between law and digital governance in a contextual manner (Mitchell, 2022; Morgan, 2022).

The study adopts a **normative and conceptual approach**. The normative approach is used to examine the legal foundations of public service decision-making, administrative procedure, citizens' rights, data protection, and electronic-based government in Indonesia. The conceptual approach is used to reconstruct the meaning of due process of law in the context of automated public decision-making. This approach is important because conventional due process was originally designed for human-centered administrative decision-making, while automated systems introduce new procedural problems, such as algorithmic opacity, automated rejection, data inaccuracy, lack of explanation, limited human review, and difficulty in accessing remedies. Suksi (2021) argues that several traditional due process safeguards may become ineffective when administrative decisions are made through automated systems, while Williams (2022) emphasizes that algorithmic decision-making requires administrative law to rethink legality, discretion, reason-giving, and reviewability.

This research is also designed as a **single-case study of Indonesia**. Indonesia is selected because the country has developed a legal and policy framework for electronic-based government and digital public services, but has not yet established a specific legal framework governing automated public decision-making in public services. The case study focuses on the Indonesian legal system, especially the relationship between administrative law, public service law, personal data protection law, and digital government regulation. Law No. 30 of 2014 concerning Government Administration is used as the main legal basis for examining legality, administrative authority, discretion, governmental decisions, and good governance principles. Law No. 25 of 2009 concerning Public Services is used to analyze citizens' rights, service obligations, complaint mechanisms, and public service accountability. Law No. 27 of 2022 concerning Personal Data Protection is used to examine the rights of data subjects, data processing, obligations of data controllers and processors, administrative sanctions, and dispute settlement in digital services. Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System provides the broader regulatory foundation for digital government transformation in Indonesia.

The data used in this study consist of **primary legal materials, secondary legal materials, and supporting policy documents**. Primary legal materials include the 1945 Constitution of the Republic of Indonesia, Law No. 30 of 2014 concerning Government Administration, Law No. 25 of 2009 concerning Public Services, Law No. 27 of 2022 concerning Personal Data Protection, Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Systems and Transactions, Presidential Regulation No.

95 of 2018 concerning the Electronic-Based Government System, and related regulations governing public services and digital administration. Secondary legal materials include peer-reviewed journal articles on automated decision-making, due process, administrative law, algorithmic accountability, AI governance, public service digitalization, and data protection. Supporting materials include official regulatory databases, government policy documents, and institutional materials relevant to electronic-based public services.

Data were collected through **library research and documentary study**. Library research was conducted by tracing scholarly literature published mainly within the last five years, especially articles indexed in reputable journals and supported by active DOI links. Documentary study was conducted by examining legal instruments and official documents relevant to administrative decisions and digital public services. This method is appropriate because document analysis allows the researcher to systematically examine pre-existing legal and policy texts as primary sources of qualitative data (Morgan, 2022). In this study, documents were selected based on three criteria: relevance to automated or digital public decision-making, relevance to citizens' procedural rights, and relevance to administrative accountability.

The data were analyzed using **qualitative content analysis and legal interpretation**. Qualitative content analysis was used to identify recurring legal themes, including notification, explanation, data accuracy, correction, objection, human review, administrative appeal, judicial review, transparency, and accountability. Legal interpretation was then used to reconstruct the normative meaning of due process of law within Indonesia's administrative law framework. The interpretation was conducted through statutory interpretation, conceptual interpretation, and systematic interpretation. Statutory interpretation was used to examine the meaning of legal provisions. Conceptual interpretation was used to clarify the meaning of due process in the context of algorithmic decisions. Systematic interpretation was used to connect administrative law, public service law, data protection law, and electronic government regulation into a coherent framework.

The analytical process was carried out in four stages. First, the study identified the legal norms governing public service decisions and citizens' procedural protection. Second, it examined how automated decision-making may disrupt or weaken conventional due process safeguards. Third, it compared the Indonesian legal framework with scholarly debates on algorithmic accountability and automated administrative decisions. Fourth, it formulated a reconstructed due process framework for automated public decision-making in digital public services. The framework emphasizes five core rights of citizens: the right to notification when automated systems are used, the right to receive a meaningful explanation, the right to correct inaccurate data, the right to obtain human review, and the right to challenge the decision through administrative or judicial mechanisms.

To strengthen the credibility of the analysis, this study applies **source triangulation** by comparing primary regulations, scholarly literature, and official policy documents. The study also adopts a rights-based perspective, meaning that automated public decision-making is not assessed only from the perspective of administrative efficiency, but also from the perspective of citizens' legal protection. Therefore, the validity of automated public decision-making is measured by whether it remains consistent with legality, fairness, transparency, human oversight, data accuracy, reason-giving, and access to remedies.

The limitation of this method is that it does not empirically measure the performance of specific automated systems used by Indonesian public institutions. It also does not conduct interviews with citizens, public officials, or system developers. The study is limited to normative legal reconstruction based on legal texts and academic literature. Nevertheless, this method is appropriate for the objective of the article because the main purpose is to formulate a legal framework for reconstructing due process of law in automated public decision-making, rather than to evaluate the technical accuracy of a particular algorithmic system.

### 3. Results and Discussions

#### 1) Automated Public Decision-Making and the Transformation of Citizens' Procedural Position

The findings of this study indicate that automated public decision-making changes the procedural position of citizens in digital public services. In conventional administrative decision-making, citizens generally interact with identifiable public officials, submit documents, receive administrative responses, and may challenge decisions through available complaint or appeal mechanisms. In automated public decision-making, however, the process becomes more complex because the citizen's application, eligibility, risk status, or entitlement may be assessed through digital systems that rely on databases, algorithms, scoring mechanisms, and automated verification. This transformation creates a new procedural problem: citizens may receive an administrative result without clearly knowing whether the decision was made by a public official, an automated system, or a combination of both.

In the Indonesian legal context, public service decisions must remain connected to the principles of legality, accountability, fairness, and citizens' rights. Law No. 25 of 2009 concerning Public Services recognizes public service as a legal obligation of the state to serve citizens and residents, while Law No. 30 of 2014 concerning Government Administration provides the legal basis for administrative authority, government decisions, discretion, and good governance principles. These two legal instruments show that public service decisions are not merely technical outputs, but legal acts that must be accountable to citizens. Therefore, when automated systems are used in digital public services, the government cannot treat the system as a neutral technical intermediary that is separate from administrative responsibility.

This finding is consistent with Suksi's argument that automated decision-making in public administration involves the exercise of public law because it may determine a person's right, duty, or benefit. Suksi also warns that several traditional due process safeguards may become ineffective when administrative decisions are made through automated systems (Suksi, 2021). Williams similarly argues that algorithmic decision-making requires administrative law to rethink how legality, discretion, reason-giving, and reviewability operate in a system-based decision environment (Williams, 2022). In this study, these arguments are confirmed in the Indonesian context: automated public decision-making may improve administrative speed, but it also risks weakening the citizen's procedural position if the process does not provide notification, explanation, correction, human review, and access to remedies.

The first major finding, therefore, is that the digitalization of public services must not reduce citizens into passive data objects. In automated public decision-making, citizens are often assessed through pre-existing administrative data, population records, welfare databases, licensing databases, or other digital records. If the data are inaccurate, incomplete, outdated, or biased, the automated system may produce an adverse decision. Without a clear due process framework, citizens may not know how to correct the data, challenge the classification, or request human reconsideration. This condition creates what may be called a **procedural invisibility problem**, where the decision is legally significant but the process behind it is difficult for citizens to see, understand, or contest.

#### 2) Reconstructing Due Process of Law in Algorithm-Based Public Service Decisions

The second finding of this study is that the principle of **due process of law** must be reconstructed to respond to the procedural risks created by algorithm-based public service decisions. In traditional administrative law, due process is commonly associated with the right to be heard, the right to receive reasons, the right to object, and the right to obtain review. In automated public decision-making, these guarantees remain relevant but must be reformulated because the decision-making process is mediated by data, algorithmic rules, and digital infrastructures. Therefore, due process in digital public services should not only ask whether a decision has a legal basis, but also whether the citizen can understand, correct, question, and challenge the automated process that contributes to the decision.

This reconstruction should begin with the **right to notification**. Citizens must be informed when an automated system is used to process, assess, or determine their public service application. Notification is important because citizens cannot exercise procedural rights if they do not know that automation is involved. The right to notification should include basic information about the use of automated processing, the purpose of the system, the type of data used, and the possible impact of the system on the final administrative outcome. In this respect, automated public decision-making must be connected with the

Personal Data Protection Law because algorithmic decisions often depend on the processing of personal data. Law No. 27 of 2022 regulates principles, data-subject rights, personal data processing, obligations of controllers and processors, administrative sanctions, and dispute settlement; these elements are directly relevant to automated public service decisions.

The second element is the **right to explanation**. Citizens affected by automated public service decisions must be able to understand the main reasons behind the decision. This does not mean that the government must disclose every technical detail of an algorithm, but it must provide a meaningful explanation of the legal basis, data categories, assessment criteria, and decisive factors that influenced the outcome. Grimmelikhuijsen's study shows that algorithmic transparency, particularly explainability, is important for strengthening perceived trustworthiness in automated decision-making (Grimmelikhuijsen, 2023). Aoki et al. also demonstrate that the type of explanation matters for how affected persons perceive the accuracy, fairness, and trustworthiness of algorithmic government decisions (Aoki et al., 2024). These findings strengthen the argument that explanation is not merely an ethical preference, but a procedural requirement in digital administrative justice.

The third element is the **right to data correction**. Automated decisions depend heavily on data quality. If citizens are assessed through inaccurate, outdated, or incomplete data, the resulting decision may be legally unfair even if the algorithm functions technically as designed. In the context of digital public services, this right is crucial for social assistance, population administration, licensing, education services, health services, taxation, and other areas where eligibility is often determined through integrated databases. Due process must therefore include the right of citizens to access relevant data, request correction, and ensure that corrected data are reconsidered before a final adverse decision is enforced.

The fourth element is the **right to meaningful human review**. Human review must not be symbolic or merely administrative. A public official must have the capacity and authority to examine the automated output, evaluate the legal and factual basis of the decision, consider exceptional circumstances, and override the system when necessary. This finding is consistent with Bignami's view that AI accountability in public administration requires institutional responsibility, transparency, and auditability, not merely technical automation (Bignami, 2022). It is also consistent with Busuioc's argument that accountable AI requires identifiable actors and mechanisms capable of holding institutions responsible for algorithmic outputs (Busuioc, 2021).

The fifth element is the **right to challenge the decision**. Citizens must have access to administrative complaint mechanisms, objection procedures, human reconsideration, and judicial review when automated decisions affect their rights or interests. Without contestability, automated public decision-making may create a closed administrative system in which citizens receive decisions but cannot effectively dispute them. Therefore, the reconstructed due process framework proposed in this study consists of five interrelated rights: notification, explanation, data correction, meaningful human review, and administrative or judicial challenge. These five rights form the minimum procedural safeguards for ensuring that automated public decision-making remains compatible with administrative justice.

### 3) 3. Normative Implications for Digital Public Services in Indonesia

The third finding of this study is that Indonesia's current legal framework already provides a foundation for protecting citizens in digital public services, but it has not yet fully regulated the procedural consequences of automated public decision-making. Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System provides the policy foundation for digital government integration, while Law No. 27 of 2022 strengthens personal data protection in digital administration. However, these instruments do not yet provide a specific and comprehensive framework on how due process must operate when public service decisions are made or significantly influenced by automated systems.

This regulatory gap has important implications. First, public institutions need internal standards that determine when automated systems may be used in public service decision-making and when human intervention is mandatory. Second, digital public service platforms must provide clear procedural information to citizens, including whether automation is used and how citizens can object to the result. Third, public bodies must maintain documentation and audit trails to ensure that automated decisions can be reviewed by supervisors, ombudsman institutions, courts, or other accountability bodies. Fourth, automated

public decision-making must be integrated with data protection obligations, especially in relation to lawful processing, data accuracy, transparency, and the rights of data subjects.

The findings of this study support previous research showing that algorithmic public administration requires more than technological capacity. Madan and Ashok argue that AI adoption in public administration creates unresolved issues concerning fairness, transparency, privacy, and governance capacity (Madan & Ashok, 2023). Mergel et al. emphasize that AI implementation in the public sector requires organizational readiness and institutional adaptation, while Rizk and Lindgren show that automated decision-making changes the decision space between public officials and citizens (Mergel et al., 2023; Rizk & Lindgren, 2025). This study extends those findings by arguing that the transformation of the decision space must be answered through a reconstruction of due process in administrative law, not merely through technical governance or managerial reform.

The normative contribution of this study is the formulation of an **algorithmic due process framework** for Indonesian digital public services. This framework places citizens' procedural rights at the center of automated public decision-making. It requires that every automated or algorithm-assisted public service decision must satisfy at least five standards: citizens must be notified when automation is used; citizens must receive a meaningful explanation of the decision; citizens must be able to correct inaccurate data; citizens must have access to meaningful human review; and citizens must be able to challenge adverse decisions through administrative or judicial mechanisms. These standards are necessary to prevent digital public services from becoming efficient but procedurally unjust.

In this sense, the reconstruction of due process is not intended to reject automation in public services. Rather, it seeks to ensure that automation remains legally accountable and rights-based. Automated systems may assist public administration by improving speed, consistency, and data processing capacity, but they must remain subject to legality, transparency, fairness, human oversight, and contestability. The central implication is that Indonesia's digital public service reform should not only focus on platform integration and service efficiency, but also on the protection of citizens' procedural rights in algorithm-based administrative decisions.

#### 4. Conclusion

This study concludes that the principle of **due process of law** must be reconstructed in response to the emergence of automated public decision-making in digital public services. The use of algorithmic systems in public administration does not merely change the technical mechanism of service delivery; it also changes the legal relationship between citizens and the state. When public service decisions are made, supported, or significantly influenced by automated systems, citizens may face decisions whose legal basis, data source, reasoning process, and responsible authority are difficult to identify. This condition creates a serious procedural risk because citizens may be affected by administrative decisions without adequate opportunity to understand, correct, question, or challenge them.

The main finding of this study is that Indonesia already has several important legal foundations for digital public services, including the laws on public services, government administration, personal data protection, electronic systems, and electronic-based government. However, these legal instruments have not yet specifically regulated the procedural consequences of automated public decision-making. Existing regulations provide general principles of legality, accountability, public service obligations, data protection, and good governance, but they do not clearly define citizens' rights when administrative outcomes are produced or influenced by algorithmic systems. As a result, there remains a normative gap between the development of digital public services and the protection of citizens' procedural rights.

The novelty of this study lies in its formulation of an **algorithmic due process framework** for Indonesian digital public services. This framework connects the classical doctrine of due process in administrative law with the realities of algorithm-based decision-making. The study argues that due process in automated public decision-making must include at least five procedural rights: the right to notification, the right to explanation, the right to data correction, the right to meaningful human review, and the right to

administrative or judicial challenge. These rights are necessary to ensure that citizens are not treated merely as data objects within digital systems, but remain legal subjects who are entitled to fairness, transparency, participation, and remedies.

This study strengthens previous research on automated decision-making, algorithmic accountability, and AI in public administration. Prior studies have emphasized transparency, explainability, trust, institutional responsibility, and public value in the use of AI by government. This article extends those discussions by placing due process at the center of digital public service governance. The implication is that the legitimacy of automated public decision-making cannot be measured only by speed, efficiency, accuracy, or administrative integration. It must also be measured by whether citizens are able to know that automation is being used, understand the reasons for the decision, correct inaccurate data, obtain human reconsideration, and challenge adverse outcomes through accessible legal mechanisms.

The study also acknowledges several limitations. It is based on qualitative legal research and documentary analysis, so it does not empirically examine the actual implementation of automated decision-making systems in specific Indonesian public institutions. It also does not assess the technical performance, accuracy, or bias of particular algorithms used in public services. Therefore, the conclusions of this study are primarily normative and conceptual, aimed at reconstructing legal principles rather than evaluating specific digital platforms.

Future research should examine concrete cases of automated or semi-automated decision-making in Indonesian public services, particularly in social assistance, online licensing, population administration, taxation, education, health services, immigration, and public recruitment. Empirical studies involving citizens, public officials, system developers, and oversight institutions are also needed to understand how procedural rights are experienced in practice. Comparative research with jurisdictions that have developed stronger rules on automated decision-making, such as the European Union, Australia, Singapore, or Canada, may also enrich the development of Indonesian administrative law. Further interdisciplinary studies combining law, public administration, data governance, and computer science are necessary to design practical standards for explainable, auditable, and contestable digital public service systems.

Overall, this study argues that automation in public services should not be rejected, but it must be legally controlled. Digital government can improve administrative efficiency, but efficiency must not come at the expense of procedural justice. Automated public decision-making will only be legitimate if it remains subject to legality, fairness, transparency, human oversight, data accuracy, and effective remedies. Therefore, the reconstruction of due process of law is essential for ensuring that Indonesia's digital public services remain not only modern and efficient, but also accountable, rights-based, and constitutionally fair.

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### **Legal Materials**

Law No. 25 of 2009 concerning Public Services.

Law No. 27 of 2022 concerning Personal Data Protection.

Law No. 30 of 2014 concerning Government Administration.

Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System.